the left, and the reverse is true in left-handed persons. The same is true for those who walk much or are on their feet frequently, the most advanced arterial changes in these persons being in the vessels of the legs. These facts all point to the prominent part played by work in arteriosclerosis. To find out whether this factor of work alone unaided by toxic agents could produce sclerotic changes, the author experimented on healthy nine-months-old rabbits by suspending them by their hind legs for a few minutes a day over a long period of time, thus causing not only increased work, but also, by the inverted position, considerable increase in pressure in the thoracic aorta above the normal, and this without the aid of drugs. At autopsy macroscopical and microscopical changes could easily be made out in the aorta and its branches above the renal vessels. There were two kinds of changes noted in the vessels, one in the intima alone, and the other in the media. In the latter type degenerative changes occur and fusiform aneurysms are formed. Klotz concludes that from these experiments work plays a very important role in the production of arteriosclerosis of different character; that even in vessels of different histological structure sclerotic changes can be brought out by increased work; and further, that as a consequence of certain changes, degenerative in character, taking place as the result of increased work in the media of the vessels, aneurysms may result.

SURGERY.

UNDER THE CHARGE OF

J. WILLIAM WHITE, M.D.,

JOHN RHEA BARTON PROFESSOR OF SURGERY IN THE UNIVERSITY OF PENNSYLVANIA; SURGEON TO THE UNIVERSITY HOSPITAL

AND

T. TURNER THOMAS, M.D.,

ASSISTANT SURGEON TO THE UNIVERSITY AND THE PHILADELPHIA GENERAL HOSPITALS, AND INSTRUCTOR IN SURGERY IN THE UNIVERSITY OF PENNSYLVANIA.

A Contribution to the Study of Jejunostomy.—Delore and Thevenot (*Archiv gén d. chir.*, 1908, ii, 237) say that jejunostomy does not merit the discredit into which it has fallen, in the view of many surgeons. The results are good when a simple technique is employed. Preference is given to two methods of operation: the one proposed by Druebert in which a canal is made leading out from the intestine between the serous and the muscular coats of the intestine; the other proposed by Eiselberg and Witzel in which the canal is made along the wall of the intestine by plicating it over a catheter as in the similar method of performing a gastrostomy. The chief object of any method is to obtain an opening in the bowel which will be continent. It should be one that can be easily and rapidly made and one that may be only temporary.

More complicated operations do not accomplish more than these simple ones and are not tolerated as well by the enfeebled patients. Jejunostomy is indicated: in cancer of the œsophagus when the stomach is so retracted that one cannot do a gastrostomy; in cancer of the stomach when the situation and extent of the lesions will not permit a gastrostomy or a gastro-enterostomy, and when under any circumstances in such cases a gastrostomy is impossible; in gastric fistulæ, spontaneous or surgical, when the orifice cannot be closed by direct sutures and is situated in the pyloric region. In burns of the stomach by corrosive fluids, jejunostomy is the only convenient immediate treatment for the diffuse lesions. It is indicated when active ulcers cannot be removed or are complicated by acute or chronic hemorrhages, rebellious to medical treatment. Gastro-enterostomy is preferable when the ulcer is located in the pyloric region and is accompanied by stenosis of the pylorus. Jejunostomy has a physiological basis. It assures complete rest of the stomach and is indicated whenever rest is necessary for the cure of lesions of this organ.

Simultaneous Radical Operation on a Femoral and an Inguinal Hernia on the same side.—BERNDT (*Zentralbl. f. Chir.*, 1908, xxxv, 393) made an incision parallel to and immediately over Poupart's ligament, divided the external oblique from the external ring outward, isolated, ligated, and removed both the sacs of the femoral and inguinal herniæ. The spermatic cord was then lifted and the internal oblique muscle together with the transversalis were brought downward until they were visible under Poupart's ligament, when the horizontal ramus of the pubis could also be seen. A curved needle with a silk suture was then passed through the lower edge of the internal oblique and transversalis muscles, then through the periosteum of the pubic bone until the needle appeared external to the femoral canal. The other end of the suture was then passed through the lower edge of Poupart's ligament. Both ends were then caught in a hemostat. Two or three similar sutures were then introduced and all tied thus closing the femoral canal. About three more sutures were introduced according to the Basini method, to bring the internal oblique and transversalis to the lower edge of Poupart's ligament. The supermatic cord was then laid in position and the external oblique sutured over it in the usual manner.

Conservative Operations upon Sarcomas of the Long Bones.—BORCHARD (*Deut. Ztschr. f. Chir.*, 1908, xciii, 1) says that in cases of sarcoma originating in the bone or periosteum of the long bones, conservative methods of operation should receive the most consideration. It is not the microscopic picture, but the macroscopic, that is, the extent of involvement, which will decide whether or not a conservative method of treatment is to be employed. In all encapsulated tumors it is the operation of choice, and even in moderate sized, so called, infiltrative tumors it should be employed. Only when the soft parts are so extensively involved in the growth, or a part necessary to the preservation of the extremity, should the mutilating operations, excision and amputation, be considered. In the treatment of the more malignant tumors the performance of conservative operations should be the rule, that of the mutilating operations the exception. Functional failures are not to be much feared, since the muscles can adapt themselves to extensive shortening of the bones, and since the ability of the bones to regenerate may be delayed and later go on to completion with resulting firm union. The age of the patient is not very important. In suitable cases plastic operations should be done. The simple removal of the tumor is to be permitted only when it is completely surrounded by good bone and when this remaining surrounding bone is sufficient to guarantee the firmness of the limb, or when a companion bone will supply the deficiency. A removal of a part of a joint surface will be permitted, since this can be replaced by a plastic operation. By a sufficiently extensive resection into the sound tissues, by the employment of the plastic operations at our command, and by sufficient patience, we may obtain results, which as far as their permanency and functional effect is concerned, will be far better than those to be obtained from the mutilating operations. More patients will be saved because they will undergo these operations earlier than amputations or excisions.

The Treatment of Gonorrhœal Arthritis of Large Joints by Means of Passive Hyperemia.—Baetzner (*Deut. Ztschr. f. Chir.*, 1908, xciii, 46) says that the treatment by passive hyperemia has established an important advance in the therapy of gonorrhœal arthritis. The relief from pain afforded by it is marked. The clinical course of the disease becomes considerably milder under its influence. It permits more early movement of the joint. The duration of the disease is considerably shortened and the functional results improved. Ankylosis was not observed in any of Baetzner's cases. The treatment is simple, technically not difficult, and its cheapness makes it accessible to many cases. Baetzner believes, on the basis of his cases, that passive hyperemia should be extensively employed in the treatment of gonorrhœal arthritis.

Apropos of Total Extirpation of the Urinary Bladder.—Graeuwe (*Jour. de chir., et. ann. d. l. soc. Belg. d. chir.*, 1908, viii, 106) reports one case in which M. Verhoogen excluded the bladder from the urinary tract, and a second case in which he did a total extirpation of the bladder with a tumor growing in it. In both cases the ureters were transplanted into the cecum and the latter isolated from the rest of the gastro-intestinal tract, a fistulous tract being made from it to the surface of the abdominal wall. The first was done in a woman, aged sixty-eight years, for invasion of the bladder by a carcinoma of the uterus. After opening the abdomen the right ureter was divided between a ligature below and a forceps above. The upper cut end was introduced and sutured into an opening in the posterior side of the cecum. The same procedure was carried out with respect to the left ureter, which was carried under the peritoneum to the cecum. A rubber drainage tube was introduced to the seat of the anastomoses, to provide against possible leakage. The ileum was then divided close to the cecum and its cecal end closed by a double continuous seromuscular suture. Then the cecum was divided and the two ends closed in a similar manner. The open end of the ileum was then anastomosed into a lateral opening in the lower end of the ascending colon. The appendix, which was fortunately of a larger caliber than the normal, was opened, a rubber catheter introduced through its lumen into the cecum, and the appendix sutured into the abdominal wound. Fearing that later the lumen of the appendix would close, the operator attached the cecum to the abdominal wall, so that it might be opened subsequently if necessary. The abdominal wound was then closed. During the first twenty-four hours there was no trouble except that it was necessary to change the dressings several times, because they were soaked with urine which indicated leakage at the sutures. On the following day there was severe dyspnœa, and there were rales in the chest. Death occurred in the afternoon. The autopsy showed pulmonary œdema and neoplasmic foci in the two lungs. The left ureter was closed at the anastomosis, the right was permeable. The pelves of the two kidneys were much dilated, the cystic parenchyma was very anemic and showed lesions of interstitial nephritis. The second patient in whom the bladder with its tumor was extirpated, and in whom only one ureter was anastomosed to the cecum, the other being ligated and therefore occluded because that kidney was atrophied and functionless, lived only three days.

Subtemporal Decompressive Operations for the Intracranial Complications Associated with Bursting Fractures of the Skull.—CUSHING (*Annals of Surgery*, 1908, xlvii, 641) says that in most fractures of the base of the skull the symptoms are brought about by an increase of intracranial pressure, whether immediate from free extravasation due to laceration of cortical vessels, intermediate, often with a "free interval" of consciousness, when an extravasation outside the dura slowly augments in size, or late, often a matter of a few days when cerebral œdema occurs. During the last three years Cushing has followed the routine of making a subtemporal exploration through a split-muscle incision combined with a subtemporal decompression, namely the removal of a circle of thin bone, about 4.5 cm. in diameter, from under the muscle. A dural opening is also made. The former mortality was about 50 per cent. Of the last 15 cases only 2 have been lost, each from an overlooked extensive intracranial extravasation on the opposite side of the head. The advantages of this method of treatment are as follows: (1) The approach is made through the thinnest part of the skull. (2) The opening is made under the temporal muscle the fibers of which are split and not divided, so that when closed they serve to prevent too great bulging, and serve later to prevent a subsequent obtrusive depression when the normal conditions have been restored. (3) In case there has been a rupture of the meningeal or one of its branches the extradural clot is certainly brought into view by this opening, and as the meningeal vessel is exposed it can be ligated. (4) In all bursting fractures accompanied by laceration of the brain it is the tips of the temporal and base of the frontal lobes which most frequently suffer, and a subdural extravasation from this source can most readily be dealt with through an opening in this situation. (5) In a large proportion of bursting fractures the lines of fracture seek out the midcranial fossa, and hence free bleeding from the base can be most easily drained through the temporal fossa by drains placed under the temporal lobes. (6) The subsequent œdema and swelling of the brain, which is an almost invariable sequel of any serious cerebral contusion and which is responsible in many cases for the pressure symptoms during the first two weeks, can be best combated by an opening in this situation under the muscle. (7) Aside from the prompt subsidence of the acute symptoms which are often seen after these operations, they appear to lessen many of the unpleasant late sequels, traumatic neuroses, which are so often a feature of the cases which have recovered without operation.

Fracture through the Anatomical Neck of the Humerus with Dislocation of the Head.—BUCHANAN (*Annals of Surgery*, 1908, xlvii, 659) says that fractures through the anatomical neck of the humerus associated with dislocation of the head, present features so distinctive in their mechanism of production, in their pathology, in their amenability to external treatment, and in the nature of their operative treatment, as to place them in a class by themselves. A case of this kind came into Buchanan's hands after ineffectual efforts at reduction had been made. The ordinary signs of dislocation were not present. The rotundity of the shoulder was almost completely preserved. The elbow could be applied to the chest wall and the hand placed on the opposite shoulder. The tuberosities could be felt to rotate under the acromion with the shaft of the humerus. The persistent pain and helplessness of the limb, however, indicated a serious injury and rendered an x-ray examination advisable. This showed a fracture of the anatomical neck with subglenoid or axillary dislocation of the head. The head was removed with difficulty by an incsion made along the lower border of the anterior axillary fold the fragment being held firmly under the axillary vessels and nerves. Examination of the patient six months after the injury showed the arm to be of normal appearance with very little wasting. Unaided abduction of the arm was possible only to the extent of about 45 degrees. By passive movements the arm could be brought, easily, almost to the horizontal. All movements of the forearm and swinging movements of the limb were satisfactory. Use of the arm was much impaired in last three months, no doubt due to neuritis of the median nerve from pressure of the head prior to its removal. Reduction of the head fragments by external manipulation has been reported, but not vertified by the x-ray or autopsy. Reduction by open incision has been done in but three cases, with one good result, one fair result, and one result which could be counted fair at the end of seven weeks, the time of the report. Excision of the dislocated head is the operation of choice, having been performed in 14 cases, with 2 results called excellent, 6 good, 1 moderately good, and 2 deaths to its credit.

Osteoplastic Resection of the Skull.—WOOD (*Annals of Surgery*, 1908, xlvii, 645) has so modified the Stellwagen trephine as largely to overcome the objections to its use and to make of it a very useful instrument. The various parts of the modified instrument, which is well illustrated, are as follows: (1) A T-handle, armed with a bone drill. (2) A shaft, to which the handle is adjusted, provided with a fenestrum to accommodate the radial arm, and a blunt centre-pin at the end. The handle is held to the shaft by a spring, but is instantly released by slight traction. (3) A radial arm which is received in the fenestrum in the shaft, and is secured by a thumb screw. The knife and saw are carried at the outer end of this arm, and are held by a set screw. (4) A radial arm handle, to be adjusted to the extremity of the arm, and used to give the circular motion to the knife and saw. The arm is graduated in inches and centimeters so that it may be instantly adjusted to cut an opening of the desired size. (5) Knife and saws. Wood makes the following claims for the instrument: (1) It enables one to cut an osteoplastic flap of the skull quickly and safely. (2) No injury can possibly be done. The careless or clumsy use of the instrument can do no harm. (3) Every part may be sterilized by boiling. (4) It is always ready for use, as there are no complicated parts to get out of order. (5) It is complete in itself and does not depend on electric currents, motors, assistants, or anything but the hands of the operator.

The Treatment of Dislocation of the Shoulder-joint Complicated by Fracture of the Upper Extremity of the Humerus.—MASON (*Annals of Surgery*, 1908, xlvii, 672) says that every dislocation of the shoulder associated with fracture of the upper extremity of the humerus is a grave injury, and is likely to result in serious impairment of function if not promptly treated. Every such injury should be subjected to *x*-ray examination for accuracy in diagnosis. Gentleness should characterize all manipulative efforts at reduction, and these should never be carried to the point of bruising or lacerating the tissues. Excision should only be practised when reduction by open arthrotomy has failed, or when there is extensive comminution of the upper end of the humerus, or when in fracture of the anatomical neck, the condition of the upper fragment does not justify a reasonable expectation of uniting. After reduction the broken greater tuberosity should be nailed into position if the case is recent, and should be removed if it causes impairment of function in an old case. Failing to reduce by manipulation, immediate arthrotomy with reduction of the dislocation, followed by appropriate treatment for the fracture, has given the best results, and is the ideal method of treatment. Rigid asepsis is essential in securing good results, and these operations should not be undertaken when this cannot be carried out.

Some Remarks on the Testicular Manifestations of Gonorrhœal Origin.—DIND and METRAUX (*Annal. d. mal. d. org. genito-urin.*, 1908, i, 346) say that if the epididymis is the result of infection transmitted by the blood, there should be preceding general symptoms indicating the presence of the infection in the brood. But those are generally absent until the epididymis is developed. As the operative treatment increases it will probably show a greater number of cases in which the gonococcus can be demonstrated. Andry accounted for suppuration in epididymitis by assuming that extension occurred by way of the lymphatics of the spermatic cord and epididymis. Sprecker, Hartung, and Witte have found the gonococcus in abscesses of the epididymis. Baermann found that the abscess was the result of the same organisms as those producing the urethritis, the gonococcus or others. Schindler recommended in grave febrile cases, with pronounced local infiltration, that the organ be punctured, and suggested that the punctures may be multiple. This treatment gives much relief, lowers the temperature, and decreases the infiltration. This is due to relief of the congestion from the subcutaneous hemorrhages which result. Dind and Metraux did not obtain good results from this method of treatment. They prefer an incision into the inflamed organ, which should be on the dorsal surface of the epididymis, 2 to 3 cm. long, going through the skin, fascia, and superficial layers of the epididymis. This permits an inspection of the tissues, when one may find either a diffused inflammation or intense congestion. The incision gives much hemorrhage and generally exposes some evidence of pus. One may find that the inflammation has become localized, and that one or more purulent foci are distributed throughout the organ, with fungous or necrosed walls. After rubbing away the purulent material with gauze or a blunt curette and arresting the hemorrhage the wound may be sutured, leaving in a gauze drain for twenty-four hours. The operation can be done under cocaine and gives excellent results.

THERAPEUTICS.

UNDER THE CHARGE OF

REYNOLD WEBB WILCOX, M.D., LL.D.,
PROFESSOR OF MEDICINE AND THERAPEUTICS IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; VISITING PHYSICIAN TO ST. MARK'S HOSPITAL,

ASSISTED BY

HENRY HUBBARD PELTON, A.M., M.D.,
ADJUNCT ASSISTANT ATTENDING PHYSICIAN TO THE BELLEVUE HOSPITAL; CHIEF OF THE MEDICAL CLINIC, PRESBYTERIAN HOSPITAL DISPENSARY, NEW YORK.

Diet in Gout.—SIKES (*Practitioner*, 1908, lxxx, 396) states that there seems to be a general tendency toward the recommendation of a simple mixed diet for the average patient. Also, it is now customary to modify the diet more to suit the individual digestion than to prescribe one that is free from this or that chemical element, as, for example, the quantity of purin. In average patients meat need not be forbidden, but the amount should be restricted to one meat meal in the day. We are coming more to consider the carbohydrate element of the food, and its effect on the liver, as of more importance than was formerly the case. Hence it is advisable to reduce the amount of carbohydrate which is taken in the comparatively pure form, such as potatoes, rice, etc. If we wish the digestion to proceed as normally as possible, and to avoid the absorption of imperfectly elaborated products, it is only rational to prevent the undue dilution of the gastric juice, conse-